

CLAIMS

What is claimed is:

1. A method of making an autologous T cell vaccine for the treatment of multiple sclerosis comprising:
 - (a) providing a population of peripheral blood mononuclear cells comprising T cells from a patient to be treated with the vaccine;
 - (b) reducing the population of CD4⁺ T cells;
 - (c) adding a MS associated antigen and optionally antigen presenting cells; and
 - (d) repeating step (c) one or more times.
2. The method of claim 1 wherein said MS associated antigen is selected from the group consisting of myelin basic protein, proteolipid protein, myelin oligodendrocyte glycoprotein and combinations thereof.
3. The method of claim 1 wherein said MS associated antigen comprises a sequence set forth in any one of SEQ ID NOS:1-4.
4. The method of claim 1 wherein said MS associated antigen comprises amino acids 83-99 or 151-170 of MBP.
5. The method of claim 1 wherein step (c) further comprises adding IL-2.
6. The method of claim 1 wherein step (c) further comprises adding a mitogen.
7. The method of claim 6 wherein said mitogen is selected from the group consisting of phytohemagglutinin, conconavalin A, pokeweed mitogen, and monoclonal antibodies to CD3.
8. An autologous T cell vaccine made by the method according to any one of claims 1-7.
9. A method of treating multiple sclerosis comprising administering to a patient in need thereof an autologous T cell vaccine according to claim 8.
10. An autologous T cell vaccine comprising an enriched population of CD8⁺ T cells reactive to a MS associated antigen.
11. The vaccine of claim 10 wherein the population of CD4⁺ T cells is reduced.
12. The vaccine of claim 10 wherein said MS related antigen is selected from the group consisting of myelin basic protein, proteolipid protein and myelin oligodendrocyte glycoprotein.

13. The vaccine of claim 10 wherein said MS related antigen comprises a sequence set forth in any one of SEQ ID NOS:1-4.

14. The vaccine of claim 10 wherein said MS related antigen comprises amino acids 83-99 or 151-170 of MBP.